

POWER OF ATTORNEY BY ASSIGNEE  
(Not Accompanying Application)

To the Commissioner of Patents and Trademarks:

The undersigned assignee of the entire interest in application for letters patent entitled: NUCLEIC ACID MEDIATED ELECTRON TRANSFER

and having the named inventors: Thomas J. Meade, Jon Faiz Kayyem and Scott E. Fraser

Serial No. 08/166/036 filed on or about the 10th day of December, 1993, hereby appoints the following attorneys to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith; said appointment to be to the exclusion of the inventor(s) and his (their) attorney(s) in accordance with the provisions of 37 C.F.R. 1.32: Harold C. Hohbach, Reg. No. 17,757; Aldo J. Test, Reg. No. 18,048; Thomas O. Herbert, Reg. No. 18,612; Donald N. MacIntosh, Reg. No. 20,316; Jerry G. Wright, Reg. No. 20,165; Edward S. Wright, Reg. No. 24,903; David J. Brezner, Reg. No. 24,774; Richard E. Backus, Reg. No. 22,701; James A. Sheridan, Reg. No. 25,435; Robert B. Chickering, Reg. No. 24,286; Gary S. Williams, Reg. No. 31,066; Richard F. Trecartin, Reg. No. 31,801; C. Michael Zimmerman, Reg. No. 20,451; Walter H. Dreger, Reg. No. 24,190; Steven F. Caserza, Reg. No. 29,780;

provided that if any one of said attorneys ceases being affiliated with the law firm of Flehr, Hohbach, Test, Albritton & Herbert as partner, employee or of counsel, such attorney's appointment as attorney and all powers derived therefrom shall terminate on the date such attorney ceases being so affiliated.

In accordance with 37 CFR 3.73 the assignee hereby certifies that the evidentiary documents with respect to its ownership have been reviewed and that, to the best of assignee's knowledge and belief, title is in the assignee seeking to take this action.

Direct all telephone calls to Richard F. Trecartin at (415) 781-1989.

Address all correspondence to:

FLEHR, HOHBACH, TEST,  
ALBRITTON & HERBERT  
Suite 3400, Four Embarcadero Center  
San Francisco, California 94111

Assignee: CALIFORNIA INSTITUTE OF TECHNOLOGY

By: Brian K. Jenkins  
(typed name)

Signature: 

Title: Assistant Director of Financing

Address: 1201 East California Boulevard

Pasadena, California 01125

Date: 1/18/94

File No. A-58762/RFT/RMS

Form #1.09

# DECLARATION FOR PATENT APPLICATION

As a below-named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled NUCLEIC ACID MEDIATED ELECTRON TRANSFER

the specification of which

(check ☐ is attached hereto.  
one)

☒ was filed on 12/10/94 as  
Application Serial No. 08/166,036  
and was amended on \_\_\_\_\_  
(if applicable)

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose to the Patent Office all information known to me to be material to patentability as defined in 37 C.F.R. 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s)			Priority Claimed	
_____ (Number)	_____ (Country)	_____ (Day/Month/Year Filed)	<input type="checkbox"/> Yes	<input type="checkbox"/> No
_____ (Number)	_____ (Country)	_____ (Day/Month/Year Filed)	<input type="checkbox"/> Yes	<input type="checkbox"/> No
_____ (Number)	_____ (Country)	_____ (Day/Month/Year Filed)	<input type="checkbox"/> Yes	<input type="checkbox"/> No

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose to the Patent Office all information known to me to be material to patentability as defined in 37 C.F.R. 1.56 which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

_____ (Application Serial No.)	_____ (Filing Date)	_____ (Status) (patented, pending, abandoned)
_____ (Application Serial No.)	_____ (Filing Date)	_____ (Status) (patented, pending, abandoned)

Direct all telephone calls to Richard F. Trecartin at (415) 781-1989.

Address all correspondence to:

FLEHR, HOHBACH, TEST,  
ALBRITTON & HERBERT  
Suite 3400, Four Embarcadero Center  
San Francisco, California 94111

File No. A-58762/RFT/RMS

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Title 18, United States Code, §1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of sole or  
first inventor:

Thomas J. Meade

Inventor's signature:

*Thomas J. Meade*

Date:

11/19/94

Residence:

Altadena, California 91001

Citizenship:

U.S.A.

Post Office Address:

1656 New York Drive, Altadena, California 91001

Full name of second joint  
inventor, if any:

Jon Faiz Kayyem

Inventor's signature:

*Jon Faiz Kayyem*

Date:

1/11/94

Residence:

Pasadena, California 91106

Citizenship:

U.S.A.

Post Office Address:

428 S. Sierra Bonita, Pasadena, California 91106

Full name of third joint  
inventor, if any:

Scott E. Fraser

Inventor's signature:

*Scott E. Fraser*

Date:

1/24/94

Residence:

Newport Beach, California 92660

Citizenship:

U.S.A.

Post Office Address:

720 Bison Avenue, Newport Beach, California 92660

To the Honorable Commissioner of Patents and Trademarks:  
Please record the attached original document or copy thereof.

1. Name of Party(ies) conveying an interest:  MEADE, Thomas J.  KAYYEM, Jon Faiz  FRASER, Scott E.	2. Name and Address of Party(ies) receiving an interest:  Name: <u>California Institute of Technology</u> Internal Address: <u>Office of Patents and Licensing</u> Street Address: <u>1201 East California Boulevard</u>  City: <u>Pasadena</u>  State: <u>CA</u> Zip: <u>91125</u>
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## 3. Description of the interest conveyed:

☒ Assignment                      ☐ Change of Name                      Other \_\_\_\_\_  
☐ Security Agreement                      ☐ Merger

## 4. Application number(s) or patent number(s).

Additional sheet attached? ☐ Yes ☒ No

If this document is being filed together with a new application, the execution date of the application is:

\_\_\_\_\_ Date

A. Patent Application No.(s)

08/166,036

B. Patent No.(s)

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: Richard F. Trecartin, Esq.

Internal Address:

FLEHR, HOHBACH, TEST,

ALBRITTON & HERBERT

Street Address:

Four Embarcadero Center, Suite 3400

City: San Francisco

State: CA Zip: 94111

6. Number of applications and patents involved:

one (1)

7. Amount of fee enclosed or authorized to be charged:

\$40.00

8. Deposit account number (attach duplicate copy of this form if paying by deposit account):

06-1300 (Order No. A-58762/RFT/RMS)

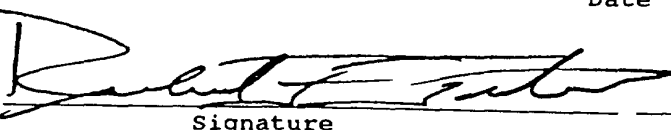
DO NOT USE THIS SPACE

9. Date of execution of attached document January 20, 24 and 26, 1994

10. I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct. Executed on:

February 7, 1994

Date

  
Signature

Richard F. Trecartin  
Name of Person Signing

TRECARTIN 05307 2999960

**ASSIGNMENT**  
(NOT ACCOMPANYING APPLICATION)

WHEREAS, the undersigned,

(1) Thomas J. Meade, (2) Jon Faiz Kayyem,  
(3) Scott E. Fraser, (4) \_\_\_\_\_,

(hereinafter termed "Inventors"), residents of

(1) Altadena, (2) Pasadena,  
(3) Newport Beach, (4) \_\_\_\_\_,

respectively, Counties of

(1) Los Angeles, (2) Los Angeles,  
(3) Orange, (4) \_\_\_\_\_,

respectively, States of

(1) California, (2) California,  
(3) California, (4) \_\_\_\_\_,

respectively, have invented certain new and useful improvements in

NUCLEIC ACID MEDIATED ELECTRON TRANSFER

and have executed an application for a United States patent disclosing and identifying the invention on the \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_; and having Serial No. 08/166,036 and filing date of December 10, 1993; and

WHEREAS, California Institute of Technology

a corporation of the State of California, having a place of business at  
1201 East California Boulevard, Pasadena, State of California,

(hereinafter termed "Assignee"), is desirous of acquiring the entire right, title and interest in and to said application and the invention disclosed therein, and in and to all embodiments of the invention, heretofore conceived, made or discovered jointly or severally by said Inventors (all collectively hereinafter termed "said invention"), and in and to any and all patents, inventor's certificates and other forms of protection (hereinafter termed "patents") thereon granted in the United States and foreign countries.

NOW, THEREFORE, in consideration of good and valuable consideration acknowledged by said Inventors to have been received in full from said Assignee:

1. Said Inventors do hereby sell, assign, transfer and convey unto said Assignee, the entire right, title and interest (a) in and to said application and said invention; (b) in and to all rights to apply for foreign patents on said invention pursuant to the International Convention for the Protection of Industrial Property or otherwise; (c) in and to any and all applications filed and any and all patents granted on said invention in the United States or any foreign country, including each and every application filed and each and every patent granted on any application which is a division, substitution, or

continuation of any of said applications; and (d) in and to each and every reissue or extensions of any of said patents.

2. Said Inventors hereby jointly and severally covenant and agree to cooperate with said Assignee to enable said Assignee to enjoy to the fullest extent the right title and interest herein conveyed in the United States and foreign countries. Such cooperation by said Inventors shall include prompt production of pertinent facts and documents, giving of testimony, execution of petitions, oaths, specifications, declarations or other papers, and other assistance all to the extent deemed necessary or desirable by said Assignee (a) for perfecting in said Assignee the right, title and interest herein conveyed; (b) for prosecuting any of said applications; (c) for filing and prosecuting substitute, divisional, continuing or additional applications covering said invention; (d) for filing and prosecuting applications for reissuance of any said patents; (e) for interference or other priority proceedings involving said invention; and (f) for legal proceedings involving said invention and any applications therefor and any patents granted thereon, including without limitation opposition proceedings, cancellation proceedings, priority contests, public use proceedings, infringement actions and court actions; provided, however, that the expense incurred by said Inventors in providing such cooperation shall be paid for by said Assignee.

3. The terms and covenants of this assignment shall inure to the benefit of said Assignee, its successors, assigns and other legal representatives, and shall be binding upon said Inventors, their respective heirs, legal representatives and assigns.

4. Said Inventors hereby jointly and severally warrant and represent that they have not entered and will not enter into any assignment, contract, or understanding in conflict herewith.

IN WITNESS WHEREOF, the said Inventors have executed and delivered this instrument to said Assignee this

(1) 20 day of January, 1994, (2) 26 day of January, 1994,  
(3) 24 day of January, 1994, (4) \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_,  
respectively.

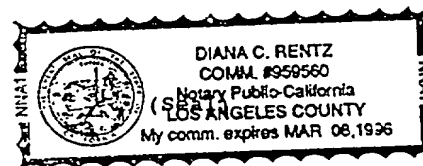
(1) Thomas J. Meade  
Thomas J. Meade

County of LOS ANGELES , )  
State of CALIFORNIA ) ss.  
.)

On this 20TH day of JANUARY, in the year 1994, before me,  
DIANA C. RENTZ, Notary Public of the State of CALIFORNIA,  
personally appeared (1) THOMAS J. MEADE, personally known to me  
(or proved to me on the basis of satisfactory evidence) to be the person whose  
name is subscribed to the within instrument, and acknowledged that he/she  
executed the same in his/her authorized capacity(ies), and that by his/her  
signature on the instrument the person, or the entity upon behalf of which the  
person acted, executed the instrument.

WITNESS my hand and official seal.

Signature Diana C. Rentz



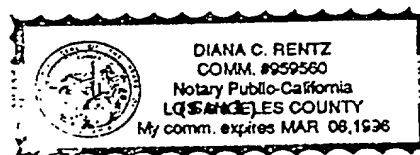
(2) Jon Faiz Kayyem  
Jon Faiz Kayyem

County of LOS ANGELES , )  
State of CALIFORNIA ) ss.  
.)

On this 20TH day of JANUARY, in the year 1994, before me,  
DIANA C. RENTZ, Notary Public of the State of CALIFORNIA,  
personally appeared (2) JON FAIZ KAYYEM, personally known to me  
(or proved to me on the basis of satisfactory evidence) to be the person whose  
name is subscribed to the within instrument, and acknowledged that he/she  
executed the same in his/her authorized capacity(ies), and that by his/her  
signature on the instrument the person, or the entity upon behalf of which the  
person acted, executed the instrument.

WITNESS my hand and official seal.

Signature Diana C. Rentz



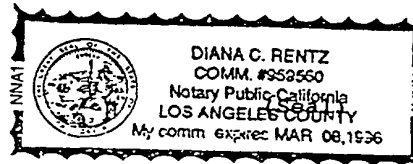
(3) Scott E. Fraser  
Scott E. Fraser

County of \_\_\_\_\_, )  
State of \_\_\_\_\_, ) ss.  
\_\_\_\_\_ )

On this 14th day of June, in the year 1997, before me,  
Diana C. Rentz, Notary Public of the State of California,  
personally appeared (3) Scott E. Fraser, personally known to me  
(or proved to me on the basis of satisfactory evidence) to be the person whose  
name is subscribed to the within instrument, and acknowledged that he/she  
executed the same in his/her authorized capacity(ies), and that by his/her  
signature on the instrument the person, or the entity upon behalf of which the  
person acted, executed the instrument.

WITNESS my hand and official seal.

Signature Scott E. Fraser



(4) \_\_\_\_\_  
(Inventor)

County of \_\_\_\_\_, )  
State of \_\_\_\_\_, ) ss.  
\_\_\_\_\_ )

On this \_\_\_\_\_ day of \_\_\_\_\_, in the year \_\_\_\_\_, before me,  
\_\_\_\_\_, Notary Public of the State of \_\_\_\_\_,  
personally appeared (4) \_\_\_\_\_, personally known to me  
(or proved to me on the basis of satisfactory evidence) to be the person whose  
name is subscribed to the within instrument, and acknowledged that he/she  
executed the same in his/her authorized capacity(ies), and that by his/her  
signature on the instrument the person, or the entity upon behalf of which the  
person acted, executed the instrument.

WITNESS my hand and official seal.

Signature \_\_\_\_\_

(Seal)